PCI Express Riser Board
Installation Instructions
for HP ProLiant DL100 Series Generation 2 Servers

Read instructions completely before beginning installation procedure.

Server I/O System Overview

System Board PCI Expansion Slots

There are three PCI expansion slots on the system board.
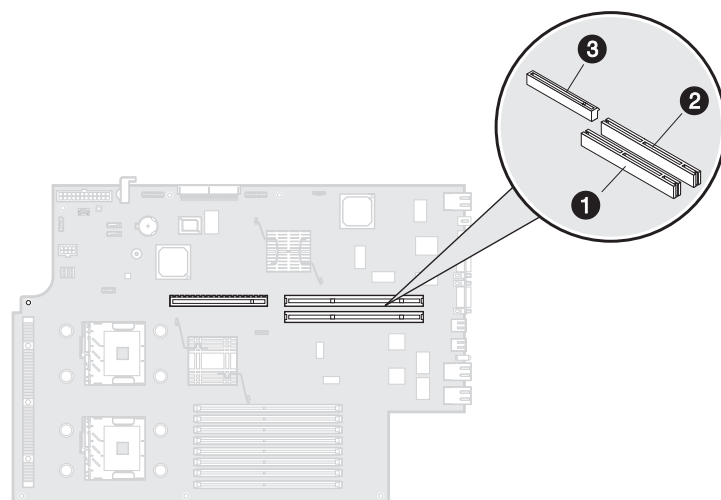
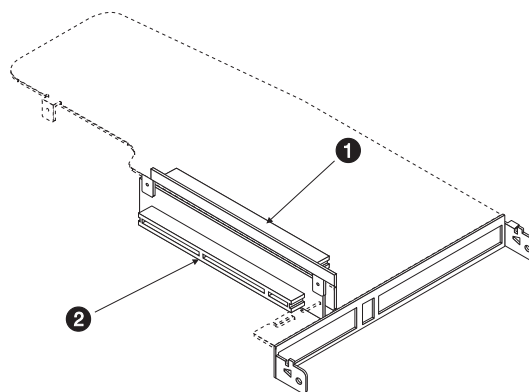| Item	Component	Function
1	64-bit/133 MHz PCI-X slot	Supports a low profile 64-bit/ 133 MHz PCI-X riser board
2	64-bit/133 MHz PCI-X slot	Supports a standard height/ full-length 64-bit/ 133 MHz PCI-X riser board
3	PCI Express slot	• In an HP ProLiant DL140 Generation 2 server – supports full-length PCI Express x8 expansion boards • In an HP ProLiant DL145 Generation 2 server – supports full-length PCI Express x16 expansion boards

• **NOTE:** Support for PCI Express expansion boards is only available when the PCI Express riser board option kit is installed.

PCI Riser Board Expansion Slots

The two PCI-X riser boards attached to the PCI riser board assembly converts the functionality of the system board expansion slots to a pair of slots positioned at a 90° angle from the system board.

Item	Component
1	Standard height/full-length 64-bit/133 MHz PCI-X riser board
	Users have the option to replace this riser board with a PCI Express model using the PCI Express riser board option kit.
2	Low profile 64-bit/133 MHz PCI-X riser board

PCI Express Riser Board Option

Installing the PCI Express riser board option allows the use of high bandwidth-intensive peripherals in your ProLiant server.

NOTE: The procedures described in this document assume that the server is out of the rack and is positioned on a flat, stable surface.

IMPORTANT: Observe the pre- and post-installation procedures described in later sections when installing the PCI Express riser board.

⚠ **CAUTION:** When handling the riser boards, follow the ESD precautions listed in Chapter 2 of the *Maintenance and Service Guide* of your ProLiant server. You can download a copy of this guide from the HP website at http://www.hp.com/.

⚠ **WARNING: Failure to properly turn off the server before you open the server may cause serious damage as well as bodily harm.**

NOTE: This document applies to several server models in the HP ProLiant DL100 Generation 2 server series. The illustrative figures used here may not be an exact match to the user's actual ProLiant server.

NOTE: For ease of reading, the PCI riser board assembly will simply be referred to as "assembly" in the succeeding sections. Furthermore, in some figures, the plane section of the PCI riser board assembly is dimmed out for clarity.

Pre-installation Procedures

1. Turn off the server and all the peripherals connected to it.
2. Unplug all cables from the power outlets to avoid exposure to high energy levels that may cause burns when parts are short-circuited by metal objects such as tools or jewelry.
   If necessary, label each one to expedite reassembly.
3. Disconnect telecommunication cables to avoid exposure to shock hazard from ringing voltages.

Installing the PCI Express Riser Board

1. Perform the pre-installation procedures described in the previous section.
2. Detach the top cover from the chassis:
   a. Loosen the captive thumbscrew on the rear panel.
   b. Slide the cover approximately 1.25 cm (0.5 in) toward the rear of the unit, then lift the cover to detach it from the chassis.
   Place the top cover in a safe place for reinstallation later.
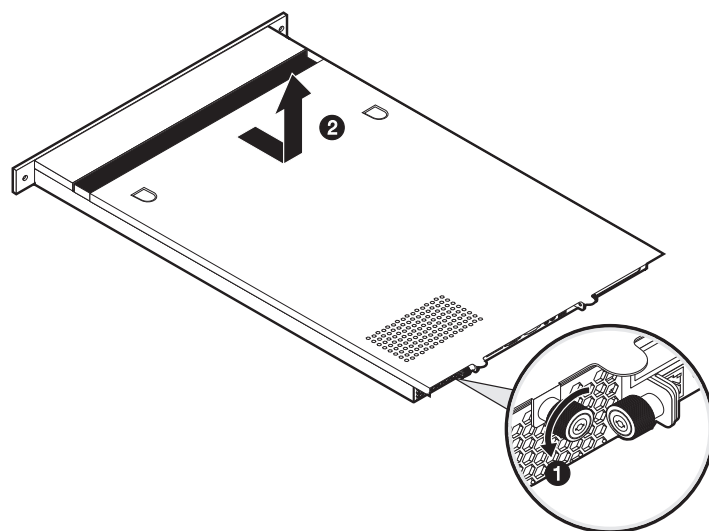
3. Disconnect any cables connecting an existing expansion board to the system board.
4. Remove the PCI riser board assembly:
   a. Loosen the two captive thumbscrews that secure the assembly to the chassis.
   b. Lift the assembly away from the chassis.
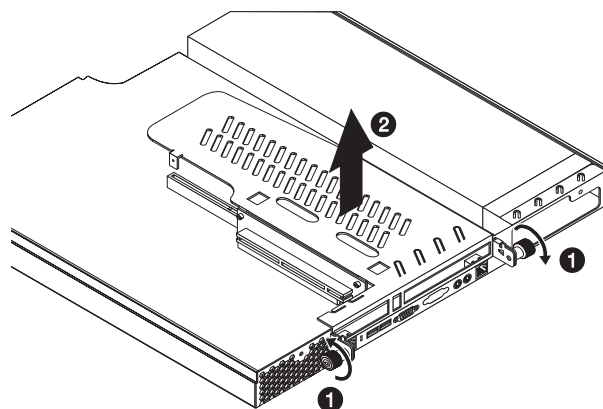
5. Remove the default standard height/full-length PCI-X riser board from the assembly:

   Keep the three screws you removed in this step for installing the PCI Express riser board later.
   a. Remove the two screws securing the riser board to the assembly.
   b. Pull the riser board away from the assembly.
   c. Remove the spare screw located on the third tab of the assembly (from the slot cover side).
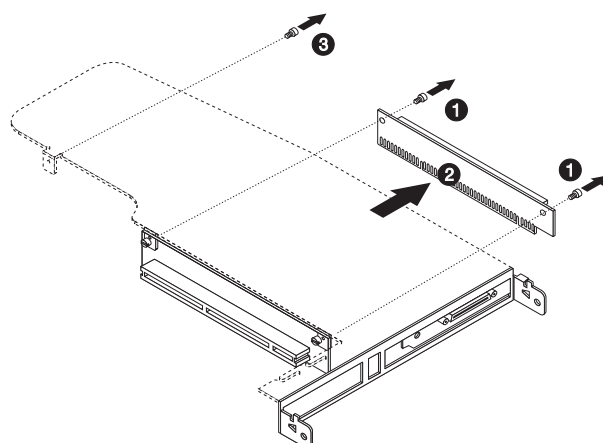
6. Remove the PCI Express riser board from its protective packaging.
7. Install the PCI Express riser board on the assembly:
   a. Align the riser board on the full-length bracket side of the assembly.
   b. Secure the riser board to the assembly using the three screws you removed in step 5.
   c. Align the assembly with the system board expansion slots.
   d. Tighten the two captive thumbscrews to secure the assembly to the chassis.
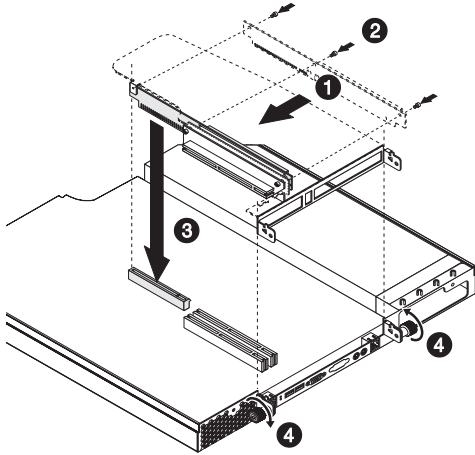
NOTE: When a standard height/full-length expansion board is installed on the PCI Express riser board slot, make sure that the corner of the expansion board is engaged to the PCI retainer bracket located on the system board.

8. Perform the post-installation procedures described in the next section.

Post-installation Procedures

1. Be sure all components are installed according to the described step-by-step instructions.
2. Check to make sure you have not left loose tools or parts inside the server.
3. Reinstall any expansion board(s), peripheral(s), board cover(s), and system cable(s) that have previously been removed.
4. Reinstall the top cover.
5. Connect all external cables and the AC power cord to the system.
6. Press the power button ⏻ on the front panel to turn on the server.